

REMARKS

Claims 1 to 28 are pending in the above-identified application when last examined. Applicant has amended claims 3 to 5, 7 to 9, 14, 19, 23, and canceled claims 1, 2, and 6, and canceled claims 1, 2, and 6.

§ 103 Rejections

The Examiner rejected claims 1 to 26 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,260,079 ("White") in view of U.S. Patent No. 6,046,511 ("Kincaid").

Claims 1 to 13

Applicant has canceled claims 1 and 2, thereby rendering their rejections moot.

Applicant has amended claims 3 and 4 to depend from claim 5. Accordingly, claims 3 and 4 are patentable at least for the same reasons as claim 5 discussed hereafter.

Applicant has amended claim 5, which now recites:

5. A disk enclosure comprising:

a first enclosure controller coupled to first and second buses;

a first plurality of elements coupled to the first bus;

a first voltage circuit powering the first enclosure controller and the first plurality of elements in a first power domain;

a second enclosure controller coupled to third and fourth buses;

a second plurality of elements coupled to the fourth bus;

a second voltage circuit powering the second enclosure controller and the second plurality of elements in a second power domain;

a first switch coupled between the first and the third buses, the first switch operable to de-couple the first and the third buses when the voltage output from the second voltage circuit falls below a predetermined threshold; and

a second switch coupled between the second and the fourth buses, the second switch operable to de-couple the second and the fourth buses when the voltage output from the first voltage circuit falls below the predetermined threshold.

Claim 5.

One embodiment of the invention described by claim 5 is shown in Fig. 7B. As can be seen, enclosure controller A is coupled by bus 920 to switch 952 and a first plurality of elements. Enclosure controller B is coupled by bus 922 to switch 952, which couples buses 920 and 922 under normal conditions. Through switch 952, both enclosure controllers A and B can monitor the first plurality of elements. This allows enclosure controller B to independently monitor the first plurality of elements, even when enclosure controller A is down. Switch 952 isolates bus 920 from bus 922 when appropriate to prevent bus 922 from grounding the bus 920.

Similarly, enclosure controller B is coupled by bus 921 to switch 953 and a second plurality of elements. Enclosure controller A is coupled by bus 924 to switch 953, which couples buses 921 and 924 under normal conditions. Through switch 952, both enclosure controllers A and B can monitor the second plurality of elements. This allows enclosure controller A to independently monitor the second plurality of elements, even when enclosure controller B is down. Switch 953 isolates bus 921 from bus 924 when appropriate to prevent bus 924 from grounding bus 921.

Applicant finds Fig. 14 of White to be more relevant than Figs. 5 and 10 identified by the Examiner. Fig. 14 of White illustrates a link control card ("LCC") 1414 with an enclosure processor 1436 coupled by an internal bus 1438 to port bypass circuits ("PBCs"), temperature sensing devices, and power monitoring devices 1444 and 1446. White, col. 23, lines 8 to 16. Furthermore, enclosure processor 1436 is coupled by internal buses 1450 and 1452 in backplane 1412 to enclosure processor 1448 on another LCC 1416. Id., lines 16 to 20.

White discloses that enclosure processors 1436 and 1448 are coupled to each other by internal buses 1450 and 1452 but not to the elements on each other's LCC. Instead, only processor 1436 is coupled by bus 1438 to the elements on LCC 1414. This does not allow enclosure processor 1448 to monitor the elements on LCC 1414 when enclosure processor 1438 is down.

This deficiency is not cured by Kincaid. Accordingly, claim 5 is patentable over the combination of White and Kincaid.

Claims 6 to 13 and 27 depend from claim 5 and are patentable over the cited references for at least the same reasons as claim 5.

Claims 14 to 26 and 28

Applicant has amended claim 14, which now recites:

14. A disk enclosure comprising:
- a first enclosure controller powered by a first voltage circuit and coupled to a first bus;
 - a second enclosure controller powered by a second voltage circuit and coupled to a second bus;
 - a first switch coupled between the first bus and a third bus, the first switch operable to de-couple the first and the third buses when the voltage output from the first voltage circuit falls below a predetermined threshold; and
 - a second switch coupled between the second bus and the third bus, the second switch operable to de-couple the second and the third buses when the voltage output from the first voltage circuit falls below the predetermined threshold.

Claim 14. One embodiment of the invention described by claim 14 is shown in Fig. 7B.

As can be seen, enclosure controller A is coupled by bus 926 to switch 950, which is coupled to bus 908 under normal conditions. Similarly, enclosure controller B is coupled by bus 928 to switch 951, which is coupled to bus 908 under normal conditions. Bus 908 is coupled to a plurality of elements shared between enclosure controllers A and B. Thus, either enclosure controller can independently monitor the plurality of elements even when the other enclosure controller is down. Switch 950 isolates bus 908 from bus 926 when appropriate to prevent bus 926 from grounding the bus 950. Similarly, switch 951 isolates bus 908 from bus 928 when appropriate to prevent bus 928 from grounding the bus 950.

Again, Applicant finds Fig. 14 of White to be more relevant than Figs. 5 and 10 identified by the Examiner. As described above, Fig. 14 of White illustrates a link control card ("LCC") 1414 with an enclosure processor 1436 coupled by an internal bus 1438 to port bypass circuits ("PBCs"), temperature sensing devices, and power monitoring devices 1444 and 1446. White, col. 23, lines 8 to 16. Furthermore, enclosure processor 1436 is coupled by internal buses 1450 and 1452 in backplane 1412 to enclosure processor 1448 on another LCC 1416. Id., lines 16 to 20.

White discloses that enclosure processors 1436 and 1448 are coupled to each other by internal buses 1450 and 1452 but not to any common elements. Instead, each enclosure processor is coupled

by an internal bus to its own elements on its own LCC. This does not allow one enclosure processor to monitor and access shared elements when the other enclosure processor is down.

This deficiency is not cured by Kincaid. Accordingly, claim 14 is patentable over the combination of White and Kincaid.

Claims 15 to 26 and 28 depend from claim 14 and are patentable over the cited references for at least the same reasons as claim 14.

Summary

In summary, claims 1 to 28 were pending in the above-identified application when last examined. Applicant has amended claims 3 to 5, 7 to 9, 14, 19, 23, and canceled claims 1, 2, and 6. For the above reasons, Applicant respectfully requests the Examiner with withdraw the claim rejections and allow claims 3 to 5, and 7 to 28. Should the Examiner have any questions, please call the undersigned at (408) 382-0480x206.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Amendments, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.



Signature

12/27/05

Date

Respectfully submitted,



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